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IS 3826-2 (1970): Connectors for Frequencies below 3 Mhz,
Part 2: Battery Connectors for Electronic Equipment [LITD
3: Electromechanical COmponents and Mechnical Structures
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IS : 3826 (Part II) - 1970

(Reaffirmed 1982)

Indian Standard

SPECIFICATION FOR CONNECTORS FOR FREQUENCIES BELOW 3 MHz

PART II BATTERY CONNECTORS FOR ELECTRONIC EQUIPMENT

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**BUREAU OF INDIAN STANDARDS
MANAK BHAVAN, 9 BAHADUR, SHAH ZAFAR MARG
NEW DELHI 110002**

Indian Standard

SPECIFICATION FOR CONNECTORS FOR FREQUENCIES BELOW 3 MHz

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Indian Standard
**SPECIFICATION FOR CONNECTORS FOR
FREQUENCIES BELOW 3 MHz
PART II BATTERY CONNECTORS FOR
ELECTRONIC EQUIPMENT**

0. FOREWORD

0.1 This Indian Standard (Part II) was adopted by the Indian Standards Institution on 16 March 1970, after the draft finalized by the Electromechanical Components for Electronic Equipment Sectional Committee had been approved by the Electrotechnical Division Council.

0.2 This standard lays down electrical, mechanical and climatic properties of battery connectors.

0.3 This standard requires reference to IS : 3826 (Part I)-1966* for general requirements and methods of test. The dimensions of the battery connectors are covered by IS : 2926-1964†.

0.4 This standard is one of a series of Indian Standards on electromechanical components for electronic equipment.

0.5 Assistance has been derived from IEC Pub 130-3 'Connectors for frequencies below 3 MHz (Mc/s), Part 3: Battery connectors' issued by International Electrotechnical Commission.

0.6 For the purpose of deciding whether a particular requirement of this standard is complied with, the final value, observed or calculated, expressing the result of a test, shall be rounded off in accordance with IS : 2-1960‡. The number of significant places retained in the rounded off value should be the same as that of the specified value in this standard.

1. SCOPE

1.1 This standard covers requirements for plug-in pin type and snap fastener type of connector for connecting primary batteries to electronic equipment.

*Specification for connectors for frequencies below 3 Mc/s: Part I General requirements and tests.

†Dimensions of connectors for radio batteries.

‡Rules for rounding off numerical values (revised).

IS : 3826 (Part II) - 1970

2. TERMINOLOGY

2.1 For the purpose of this standard terms and definitions given in 2 of IS : 3826 (Part I)-1966* shall apply.

3. CLIMATIC CATEGORIES

3.1 The connectors covered by this standard shall belong to Category III of 3 of IS : 3826 (Part I)-1966*.

4. MATERIALS AND WORKMANSHIP

4.1 The provisions of 4 of IS : 3826 (Part I)-1966* shall apply.

5. ELECTRICAL RATINGS

5.1 Voltage Ratings — The voltage ratings for plug-in pin type and snap fastener type of connectors shall be as follows:

Plug-in pin type — 1·5, 3, 4·5, 6, 7·5, 9 and 90 V.

Snap fastener type — 9, 45, 67·5 and 90 V.

6. TYPE DESIGNATION

6.1 The battery connector covered by this standard shall be designated by the following two types:

- a) Type I Plug-in pin type
- b) Type II Snap fastener type

7. MARKING

7.1 The following markings shall be provided at a suitable place in the connectors:

- a) Type I or Type II,
- b) Manufacturer's name and/or trade-mark,
- c) Identification of contacts (where practicable) according to IS : 2926-1964†,
- d) Any other marking as agreed to between the manufacturer and the customer, and
- e) Country of manufacture.

*Specification for connectors for frequencies below 3 Mc/s : Part I General requirements and tests.

†Dimensions of connectors for radio batteries.

8. TESTS

8.1 Classification of Tests — Provisions of 7 of IS : 3826 (Part I)-1966* shall apply.

8.2 Conditions of Test — Provisions of 8 of IS : 3826 (Part I)-1966* shall apply.

8.3 Plug-In Pin Type — The connectors shall be visually examined and the dimensions shall be checked.

8.3.1 Requirements — The dimensions shall conform to the corresponding portions of IS : 2926-1964†.

8.4 Snap Fastener Type

8.4.1 Test Schedule — This test schedule specifies all the tests and the order in which they shall be carried out as well as the requirements to be met with for snap fastener type connectors.

8.4.2 The test schedule for type tests shall be as specified in Table 1.

NOTE 1 — The clause references, conditions of tests and the requirements specified are applicable for the acceptance test also and the grouping into lots is for the purposes of the type tests only.

NOTE 2 — Conditions of tests and values for the requirements that are to be specified according to IS : 3826 (Part I)-1966* only are given in col 4 of Table 1. Other conditions and requirements of tests are according to IS : 3826 (Part I)-1966*.

*Specification for connectors for frequencies below 3 Mc/s : Part I General requirements and tests.

†Dimensions of connectors for radio batteries.

TABLE 1 TEST SCHEDULE

(Clause 8.4.2)

[See also Appendix A of IS : 3826 (Part I)-1966*]

TEST	REF TO CL NO. OF IS : 3826 (Part I)-1966*	CONDITIONS OF TEST	REQUIREMENTS CATEGORY III	
(1)	(2)	(3)	(4)	
<i>All Samples</i>				
Visual Examination	9	—	—	
Dimensions	10	Non-resilient parts only	Shall conform to 3.2 of IS : 2926-1964†	
Contact Resistance	12.1	Resilient parts only	3 m Ω Max	
The samples shall then be divided into four lots and all connectors in each lot shall undergo the tests specified for each lot				
<i>First Lot</i>				
Gauge retention force	13.2	On resilient parts only; gauges according to 3.3 of IS : 2926-1964†; (mass of) weight of the minimum gauge for: Normal : 200 g Miniature : 150 g	—	
Insertion and withdrawal force	14.3	On mated set of connectors	Insertion force : Withdrawal force :	<i>Normal</i> 60 N Max <i>Miniature</i> 40 N Max <i>Normal</i> 20 N Min <i>Miniature</i> 15 N Min 40 N Max
Soldering	13.5	Method 2 Diameter of bit size : 8 mm Period of recovery : 30 minutes	—	
Vibration including variation of contact resistance	14.1	Resilient parts only; Severity 1 of Table 2 of IS : 589-1961†	Under consideration	
Bump	14.2	On mated sets	—	

Second Lot

Mechanical endurance test	18	On mated sets of connectors, number of operations : 50; frequency of operations : 30/ min; minimum time between successive operations: 1 second	—		
Contact resistance	12.1	Resilient parts only	10 m Ω Max		
Variation of contact resistance	12.2	Resilient parts only	Under consideration		
Insertion and withdrawal force	14.3	On mated sets of contacts		Normal	Miniature
			Insertion force :	60 N Max	40 N Max
			Withdrawal force :	20 N Min	15 N Min
			60 N Max	40 N Max	
Gauge retention force	13.2	On resilient parts only; gauges according to 3.3 of IS : 2926-1964†; (mass of) weight of the minimum gauge for : Normal : 200 g Miniature : 150 g	—		

Third Lot

Damp heat (long term)	16.3	Half the number of connectors shall be mated and half the number shall be unmated NOTE — Mated sets shall not be disturbed prior to the first measurement of the first measur- ing cycle of contact resistance after exposure	—
Contact resistance	12.1	—	10 m Ω Max
Insulation resistance	12.4	Test voltage: 100 \pm 15 V dc. The requirements of insula- tion resistance only applies between two contacts mount- ed on the same insulating base	10 M Ω Min

(Continued)

TABLE 1 TEST SCHEDULE — *Contd*

TEST (1)	REF TO CL NO. OF IS : 3826 (Part I)-1966*	CONDITIONS OF TEST (3)	REQUIREMENTS CATEGORY III (4)
<i>Fourth Lot</i>			
Storage	17	—	—
Contact resistance	12.1	—	Under consideration
Insulation resistance	12.4	Test voltage : 100 \pm 15 V dc	Under consideration
Soldering	13.5	Method 2 Diameter of bit size : 8 mm Period of recovery : 30 minutes	
Visual examination	9	—	—

*Specification for connectors for frequencies below 3 Mc/s : Part I General requirements and tests.

†Dimensions of connectors for radio batteries.

‡Basic climatic and mechanical durability tests for electronic components (*revised*).

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